

# Aquilegia

## Newsletter of the Colorado Native Plant Society

*Dedicated to furthering the knowledge, appreciation and conservation of native plants and habitats of Colorado through education, stewardship and advocacy*



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## PLANT GAMES OF NATIVE AMERICAN CHILDREN INSPIRE RESEARCH

*By Donald L. Hazlett, Ethnobotanist, Denver Botanic Gardens*

Children of any century or from any ethnic group are full of energy and can be a real challenge for parents to keep busy. For entertainment Native American children used shortgrass steppe plants for toys and games. It may be that children devised these uses, but it is more likely that plant games were taught to children by parents - a way to keep them busy. These plant uses were inspired before television and electronic gadgets - a time when children spent large amounts of unstructured time on the grasslands.

### SPINNING TOPS

The Plains Apache made tops from *Solanum* fruits (Jordan 2010). They made them with young, hard fruits of *Solanum elaeagnifolium* Cav (silver-leaf nightshade), *S. dimidiatum* Raf. (western horse nettle), and perhaps from other *Solanum* species. Jordan explained that hard, immature fruits from these plants were collected and a sharp stick was carefully passed through the center of a fruit. These sharp sticks were cut to a length that allowed the longer, blunt stem section to be spun in the palms of your hands. These were spun on hard soil or rocks. Jordan did not mention any particular game, but it is easy to imagine that children would compete, as pioneer children did, to see which top would spin the longest. *Trompillo* is a Spanish common name for *S. elaeagnifolium* (Hazlett 2004).

### Colorado Flora FOURTH EDITION !

The long-anticipated Fourth Editions of *Colorado Flora: Eastern Slope* and *Colorado Flora: Western Slope* are now in publication by the University Press of Colorado. Authored by Dr. William A. Weber and Ronald C. Wittmann, the *Colorado Flora* has long been the authority in the identification of Colorado plants. The new editions also include an illustrated treatment of Ophioglossaceae (moonwort family) by Donald R. Farrar and Steve J. Popovich.

The two volumes can now be ordered from our website at [conps.org](http://conps.org), online through Amazon.com , or through bookstores. The suggested retail price is \$27.95, but copies purchased through the CoNPS bookstore are \$23.00, plus \$3.00 shipping and applicable sales tax.

**Note: A special *Aquilegia* commemorating the Fourth Edition will be published this summer. We plan to include a review of the new flora, biographical and bibliographical information on the authors, background information on the history of Colorado Flora, and more.**

I can imagine a time - centuries ago - when Plains Apache children played with Spanish children and taught them how to make *Solanum* tops or vice versa.

THE HORSE RACE GAME

The “horse race” game is played with Indian wooly wheat (*Plantago patagonica* Jacq.). This is an annual plant that occurs throughout the West and in most eastern states. Since it grows well in disturbed soils, it is sometimes cited as in indicator of overgrazing. This plant is found throughout the shortgrass steppe, can be locally abundant, and exhibits a high degree of developmental plasticity. In dry conditions this plant can flower at a height of less than 1 cm. In wet years or wet habitats it can be over 25 cm tall.

Variation in the size of *P. patagonica* stalks is the basis for the “horse race” game as played by boys of the Plains Apache tribe Jordan (2010). Before this game begins there are bets to be made. In this regard, the game copies adult behavior, since Native American are notorious gamblers. Each participant must ante-up something in exchange for participating in this game. A certain amount of time is then set for the game. The “horse race” begins with the participants run in different directions in quest of the longest *Plantago* “stem” (presumably the panicle and spike length combined).

When the game is over the “horse racers” return and the boy with the longest “stem” wins and collects the bets.

Inspired by this Plains Apache children’s game, I decided to do a pilot research project. The objective was to document the variation in stem height that exists among *P. patagonica* plants that are archived in local herbaria: an updated version of the Plains Apache “horse race” game. Five herbaria are the participants. The winner will be the herbarium that has archived the longest *P. patagonica* peduncle (with spike) from Colorado. The participants are: 1) University of Colorado, Boulder (COLO), 2) Colorado State University, Ft. Collins (CSU), 3) Denver Botanic Gardens, Denver (KHD), 4) University of Northern Colorado, Greeley (GREE) and 5) San Juan College, Farmington NM (SJNM). Unfortunately, these herbaria were reluctant to ante-up the entry fee of 1 new plant press each. Therefore, the only prizes for winning are kudos and karma.

In April, 2011 “horse race” data (mm) were collected from each of 260 herbarium sheets of *P. patagonica*. The measurements were: 1) total length, from the ground (base of peduncle) to the top of the spike, and 2) length of the spike (Table 1). Since several plants are often mounted on the same sheet, data was collected only from the tallest plant on each sheet.

| All values are in mm | Herbaria where plants are archived<br>(n= number of sheets measured) |     |            |     |               |     |             |     |             |     |
|----------------------|--|-----|------------|-----|---------------|-----|-------------|-----|-------------|-----|
|                      | CSU (n= 65)  |     | KHD (n=23) |     | COLO (n = 79) |     | SJNM (n=64) |     | GREE (n=29) |     |
|                      | M  | std | M          | std | M             | std | M           | std | M           | std |
| A = P + S            | 137  | 48  | 151        | 52  | 136           | 39  | 119         | 40  | 155         | 48  |
| Longest A            | 292  |     | 252        |     | 239           |     | 239         |     | 227         |     |
| B = S only           | 59   | 31  | 64         | 34  | 54            | 27  | 47          | 26  | 62          | 29  |
| Longest B            | 149  |     | 128        |     | 117           |     | 123         |     | 132         |     |
| B(M)/A(M)            | 43%  |     | 43%        |     | 40%           |     | 39%         |     | 40%         |     |

**Table 1.** Peduncle and spike length (P & S) for Colorado *Plantago patagonica* archived in 5 herbaria: 1) Colorado State University, (CSU), 2) University of Colorado (COLO), 3) San Juan College (SJNM), 4) Denver Botanic Gardens (KHD) and 5) University of Northern Colorado (GREE). [M = mean values; std = standard deviation]

The winner, with a peduncle plus spike length of 292 mm, is the CSU herbarium (Table 1). This *Plantago* is #1121 collected by Ackerfield & Ackerfield from Larimer County in 2003. Second place is KHD with 252 mm. There is a third place tie between COLO and SJNM at 239 mm. Forth place is GREE with a 227 total length.

Several herbaria, especially the University of Colorado, had *Plantago patagonica* specimens from other states. The Colorado record was greater than the 260 mm and 277 mm maxima from MT and OK, respectively. However, the 292 mm CO record was less than the maxima

of 29 mm from AZ, 318 mm from NM, and the overall record of 380 mm from Iowa.

This pilot study has quantified the height variation that exists within this species. In addition, the spike portion of total height was similar among herbaria: 39% to 43% (Table 1). No effort was made to correlate total height with climate or environmental factors, but Iowa had both the tallest plant and the greatest rainfall of the examined specimens. The CO “horse race” winner was from a higher rainfall foothills area. It seemed that taller plants were more frequent in eastern CO (greater rainfall amounts) and from sandy soils (greater water availability). It was noted that many *Plantago* plants fanned out from the base to produce 20 to 35 spikes per plant. These plants may this form due to grazing prior to a rainfall event. A hypothesis for further research with *P. patagonica* size is that greater water availability is correlated with total height.

To revive the “horse race” game it is suggested that this game be played with children on field trips. Furthermore, the “horse race” competition among Colorado herbaria is an ongoing event. Anyone that finds a *Plantago* peduncle and spike longer than 292 mm would discover a new winner – to be archived in the herbarium of your choice. Entries from other states or from excessively watered garden plants are not allowed.

## THE BLUE GRAMA SEARCH GAME

This game is played with *Bouteloua gracilis* (Kunth) Lag (blue grama). If enough water is available, blue grama grasses will flower and will produce a second spike inflorescence (i.e. eyelash grass) with 1 or 2 spikes per panicle. In Colorado there are sometimes 3 spikes per panicle, but the Flora of North America (1993+) indicates that a panicle may have as many as 6 spikes. I refer here to each second inflorescence as a flag, since a Spanish common name for our state grass is *banderita* (little flag), a reference to a second spike. Rogers (1980) explained that Lakota children would play game that counted the number of blue grama flags. The objective was to be the first to find a 3-flagged blue grama panicle. As with the “horse race” game, the basis for this game is within species varia-

tion. Unlike the “horse race” game, however, there was no mention of betting.

I have played blue grama search on the shortgrass steppe in Colorado during field trips. In an open steppe area it took about 20 minutes for the first of 8 people to find a 3-flagged blue grama. Eventually, 3 others found one. I also played this game was at the Pawnee Buttes with 25 middle school children. I mentioned to the class that I had a prize for anyone that found a 3-flagged blue grama (my mistake). As the group spread out in all directions, the first 3-flagged grama was shown to me in less than 1 minute. Within 10 minutes most of the class had shown me a 3-flagged blue grama. The only students that had not yet found one had become side-tracked collecting horned toads. Since I had offered a prize to anyone that found a 3-flagged blue grama this game eventually cost me 22 prizes. I learned that there is a high frequency of 3-flagged blue grama plants at the Pawnee Buttes.



Blue grama

Photo: Don Hazlett

I was inspired by this Lakota children's game to undertake another pilot research project. The objective was to document the frequency of 3-flagged blue grama panicles on herbarium specimens. I examined all *Bouteloua gracilis* herbarium specimens in each of the same 5 herbaria that participated in the horse race. Only one panicle per sheet needed a 3-flagged panicle for that sheet

to be tallied as with a 3-flagged blue grama. Since botanists tend to collect nice, large and perhaps 3-flagged grama plants for specimens, there may be some bias toward a greater incidence of 3-flag blue grama plants on herbarium sheets.

| 3-flagged blue grama panicles | Code for herbaria where plants are archived<br>(n= number of sheets) |                  |               |                |                |                    |
|-------------------------------|--|------------------|---------------|----------------|----------------|--------------------|
|                               | GREE<br>(n=52)   | COLO<br>(n = 81) | KHD<br>(n=45) | SJNM<br>(n=15) | CSU<br>(n= 71) | Total<br>(n = 264) |
| Number                        | 7  | 9                | 4             | 1              | 4              | 25                 |
| Proportion                    | 13.5%  | 11.1%            | 8.9%          | 6.6%           | 5.6%           | 9.5%               |

**Table 2.** Number and proportion of 3-flagged blue grama panicles among Colorado specimens archived in 5 herbaria: 1) Colorado State University, (CSU), 2) University of Colorado (COLO), 3) San Juan College (SJNM), 4) Denver Botanic Gardens (KHD) and 5) University of Northern Colorado (GREE).

The winner is the University of Northern Colorado herbarium (GREE) with 7 of 52 collections from Colorado (13.5%) with at least one 3-flagged blue grama panicle (Table 2). From a total of 264 herbarium sheets 25 (9.5%) had at least one panicle with a 3-flag grama. The Colorado plants had a range of 6% to 13% for sheets with at least one 3-flagged panicle.

Interesting observations were made when blue grama collections from other states were examined. First, none of the 34 western NM collections and none of the 6 CO western slope sheets of *B. gracilis* at SJNM were 3-flagged. However, at GREE 2 blue grama collections from western NM were 3-flagged. Two of 11 blue grama collections at COLO from AZ (18%) and 3 of 12 sheets at SJNM (25%) from AZ were 3-flagged. Both AZ and NM had a higher frequency of 3-flagged blue grama panicles than CO.

Of special interest were blue grama specimens collected from Chihuahua, Mexico and Utah. Ten of 12 sheets of blue grama from Mexico at the COLO herbarium (over 80%) had at least one 3-flag grama. One Chihuahua specimen had a 4 flagged blue grama panicle. In addition, at SJNM there were two 4-flagged blue grama panicles, both from the Capital Hills National Park region of Utah.

Both genetic and environmental factors could influence the number of spikes on *B. gracilis* panicles. Plants with more blue grama spikes per panicle may have a higher ploidy levels. A second possibility is an edaphic influence, such as the high percentage of 3-flag blue grama plants on the different soils of the Pawnee Buttes. In contrast to *Plantago patagonica*, water availability does not appear to influence the number of blue grama spikes per panicle. Adequate water does induce blue grama flowers to be produced, but frequently watered blue grama plants with many panicles can still have only 1 or 2 flags per panicle (personal observation). More extensive herbarium work and field studies could better determine if the number of blue grama spikes per panicle is correlated with genetic factors and/or environmental factors.

## DISCUSSION

The horse race game with *Plantago patagonica* and the search for a 3-flag blue grama with *Bouteloua gracilis* remind us that Native Americans were keen observers of nature. Native Americans may have realized that few shortgrass steppe plants qualify for this type of game. To qualify a plant must be: 1) fairly common, 2) need no equipment to determine a winner, 3) be played at about any time of the year (old stems remain), 4) be relatively easy to find, and 5) have inter-

specific variation that can be readily seen. To maintain a child's interest, a game plant must have an attainable objective. The goals of these games can be attained since about 10% of blue grama have 3-flagged panicles and the longest wooly plantain stem can readily be determined.

With these criteria in mind I have searched for other plants in the shortgrass steppe flora that could be game plants. I am open to suggestions, but it seems like blue grama and wooly plantain are the only plants suited for this type of game. I considered *Hordium pusillum* and *Vulpia octoflora*, but these grasses occur sporadically and are available only on a seasonal basis.

In conclusion, Native American children, or their observant parents, appear to have selected the only steppe plants well suited for this type of game. The only way I can think of to identify other game plants is to spend a few weeks of unstructured time on the shortgrass steppe with a few children – kids that con-

tinually mention how bored they are and look to you for entertainment. The recipe to devise another steppe game or toy plant is: 1) lots of time on the steppe, 2) a certain degree of boredom, 3) keen observations of nature, and 4) an active imagination.

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## 2012 FIELD TRIPS

### Colorado Native Plant Society

Our goal is to get as many people outside as possible, and there is no shortage of possibilities! Here are a few tips as you seek to venture out this field season:

- Please sign up for trips early as there may be limits to the number of participants. If full, many trips will also have waiting lists; even if a trip is full now, get your name on the list and don't give up hope!
- Details on where and when to meeting is available online on each chapter's web page, or by contacting field trip leaders.
- When attending a trip, be sure to bring a lunch, plenty of water, sun protection, bug spray, your favorite plant identification guides, a 10X magnifying glass, packable rain gear, and layers adaptable to Colorado's unpredictable and rapid weather changes.

- All trips are free and open to members and non-members (subject to group size limitations).
- No pets are allowed on field trips.
- Please check each chapter's web page for trip details and to see if any new trips have been added.
- Have fun!

All trips are subject to CoNPS field trip policies that emphasize "treading lightly" and adhering to strict limitations on plant collecting. These policies and guidelines are posted online at [www.conps.org](http://www.conps.org).

(Field trips begin on following page.)

## BOULDER CHAPTER

### SHANAHAN WILDFLOWER ROMP

**Saturday, May 19 th , 2012, 9am to 1pm**

**Leader: Melissa Dozier**

**Location: Boulder OSMP Shanahan Ridge Trailhead**

Join Melissa Dozier to romp the trails of OSMP's Shanahan Ridge and learn about the area's abundant spring wildflowers. Together we will identify and discuss a number of common and less common flowering species of the Front Range. Possible sightings include penstemons, sand lilies, death camas, anemones and much more. Time allowing, the great culmination of this hike will be a visit to three flowering cacti species which are a ~2 mile hike from the trailhead. Come ready to walk 4 miles and bring water, snacks, good shoes, and your favorite wildflower guide. *Note: this trip will replace our usual May hike.*

Melissa Dozier is a member and volunteer of the Colorado Native Plant Society and an all-around plant enthusiast. She currently works for the University of Colorado, and has worked in the past for the National Park Service and the California Invasive Plant Council.

**Meet:** OSMP Shanahan Ridge Trailhead, top of Lehigh Road at Lafayette St. No parking lot or facilities, on-street parking only, please carpool.

*For more information and to register: e-mail Melissa Dozier, [boulderconps@gmail.com](mailto:boulderconps@gmail.com) or call 720-402-0968. Indicate if you would like to have your name shared on a carpool e-mail list.*

### LION GULCH—DIVERSE FOOTHILLS FLOWERS

**Thursday, June 7, 2012, 8:30 AM to 2 PM**

**Leader: Marlene Borneman**

Marlene will lead us along this scenic and historic trail looking for early summer flowers in this diverse Foothills Zone. The ascent up Lion Gulch is a steady climb of about 1,100 feet, but the trails in the Meadows that connect the homesteads are relatively level and make for easy walking. Bring daypack with water, jacket and lunch. Limited to 12 participants. Meet at the Lion Gulch

Trailhead, ~12 miles west of Lyons. *For more information or to register: Megan Bowes, [bowesm@bouldercolorado.gov](mailto:bowesm@bouldercolorado.gov), or 303-561-4883*

### DISREPUTABLE BUTTERFLIES IN PLANT PARADISE

**Friday, June 29, 2012; 9am to 3pm**

**Leader: Rob Pudim**

Rob Pudim will take you on a walk into the dangerous world of butterflies and the plants among which they live. He will discuss the behavior, the plant hosts and the lives of an insect you see every summer. He hopes to change how your eyes see butterflies around plants, to focus on movement, where to look and how to look but, most of all, tell you what they are up to. We'll learn to identify common species and find that butterflies are tough critters that live in a dangerous world of deception, aggression, mistaken identity and even chemical warfare.

**Meet :** OSMP Green Mountain West Ridge, top of Flagstaff Road OR NCAR parking lot, west end of Table Mesa Dr.

Rob Pudim has been collecting butterflies since he was a sixth grader and has been in Boulder since the 1960s. He no longer collects butterflies except for scientific studies and has instead become a butterfly watcher. He is also a certified Native Plant Master and a member of the Colorado Native Plant Society. He says he knows a lot more about butterflies and other insects than he does plants. He makes his living as a cartoonist so you can expect a somewhat irreverent attitude and a weird spin on the world this amateur naturalist sees.

*For more information and to register: Megan Bowes, [bowesm@bouldercolorado.gov](mailto:bowesm@bouldercolorado.gov) or call 720-564-2084*



## THE TREASURES OF LONG CANYON

**Sunday, July 15, 2012; 9am to 1pm**

**Leader: Megan Bowes**

**Location: Long Canyon – Boulder OSMP**

Megan Bowes will take us up Open Space and Mountain Park's Long Canyon to see many Ice Age "relicts", including paper birch trees, a wood lily or two and lots of wild sarsaparilla. We'll also look at the buildup of sediment and discuss OSMP's plans to build sediment containment structures along Flagstaff Road. And, if we're lucky, we'll catch a glimpse of butterflies, nesting flammulated owls, a Williamson's sapsucker or other wildlife attracted to the moist, tree-lined canyon. *Limited to 12 participants due to the sensitive nature of the area. Meet : south side of OSMP Flagstaff summit, 3.4 miles up Flagstaff Rd.*

*For more information and to register: Megan Bowes, bowesm@bouldercolorado.gov or call 720-564-2084*

## ALPINE WILDFLOWERS

**Thursday, August 2, 2012; 7:30 am to 3pm**

**Leader: Marlene Borneman**

**Location: Rocky Mountain National Park**

This outing starts at Rocky Mountain National Park's Alpine Visitor Center. Marlene Borneman will lead you on a 3-4 mile, one-way hike beyond Forest Canyon Pass to find alpine gems like the Snow Lover, Blackheaded Daisy and others. Bring daypack & warm clothes, lunch. *Limited to 12 participants. Note that a National Park Pass is required or there is a \$20.00/car entrance fee.*

**Meet :** Beaver Meadows Visitor Center Parking Lot (park at west end) to carpool up Trail Ridge Road (21.6 miles).

*For more information and to register: Megan Bowes, bowesm@bouldercolorado.gov or call 720-564-2084*

## REVEGETATION FOLLOWING THE OUZEL FIRE OF 1978

**Saturday, September 15, 2012; 8am to 3pm**

**Leader: Joyce Gellhorn**

**Location: Rocky Mountain National Park**

Joyce Gellhorn takes you on a hike to observe the changes following the Ouzel Fire in Wild Basin of Rocky Mountain National Park. Her study has shown changes in the forest over a period of thirty years and may give hope to people who lost homes or many trees on their property in the Fourmile Fire. The forest will recover, it is a dynamic, always changing ecosystem and those of us who choose to live in the urban/forest interface need to learn from natural ecosystems how to live in harmony with nature. *Limited to 12 participants*

Joyce Gellhorn has taught science and natural history classes in Boulder County for over twenty-five years to students ranging in age from four to eighty-four. She holds a Ph.D. in botany with a specialty in plant ecology and has followed the revegetation of the Ouzel Fire since 1978. Gellhorn has written more than eighty articles, chapters for science textbooks, and 2 books, *Song of the Alpine* and *White-tailed Ptarmigan: Ghosts of the Alpine*.

**Meet :** Wild Basin Trailhead, Rocky Mountain National Park just north of Allenspark.

- *For more information and to register: Joyce Gellhorn, jggellhorn@mac.com or call 303-442-8123*



## **BOULDER COUNTY PARKS AND OPEN SPACE SEEKS VOLUNTEERS FOR SEED COLLECTION CREW LEADERS**

Do you have a desire to learn more about native plants? If so, you may be a good fit for our Seed Collection Crew Leader program. Imagine yourself strolling through lush meadows gathering ripe seeds that will be used to restore diversity to the public lands you love.

Parks and Open Space is partnering with Wildlands Restoration Volunteers to train volunteers to lead native seed collection projects. Crew leaders should enjoy working outdoors, have an outgoing personality, and be comfortable interacting with people of all ages. Volunteers must attend training on Saturday, June 25 from 8:30am-3:00pm, and commit to leading at least three projects in 2011. Training takes place at the Boulder County Parks and Open Space office at 5201 St. Vrain Road in Longmont.

*For an application and more information, please contact Erica Christensen at 303-678-6329 or [echristensen@bouldercounty.org](mailto:echristensen@bouldercounty.org).*

Application deadline is June 17, 2011.

## **GORE RANGE CHAPTER**

### **FILOHA MEADOWS**

**Monday July 2, 2012, 3 – 5pm**

**Location:** Filoha Meadows, Pitkin County (Crystal River Carbondale).

**Leader:** Lisa Tasker, Owner EM Ecological, LLC

Space is limited to 20 people, so if you are interested, please RSVP asap to Nanette Kuich at [kix@vail.net](mailto:kix@vail.net). Nanette will pass along the details as they become available.

## **METRO DENVER CHAPTER**

### **ROXBOROUGH STATE PARK**

**3rd Wednesday, April thru Sept., 9:00 am**

**Location:** Roxborough State Park, 4751 North Roxborough Drive, Littleton 80125

**Leader:** Lenore Mitchell, Instructor, Native Plant Master Program

Monthly trips on the 3rd Wednesday: May 16, June 20th, July 18th, August 15th, and September 19th (\$7. daily pass required). For monthly hikes April through Sept (it'll be fantastic to follow the evolving plants from spring to fall) we'll likely concentrate on the Willow Creek 1 1/2 mile trail, which extends onto the 3 mile South Rim trail. Willow Creek is nearly level with moisture lovers around the small stream, while South Rim features a gentle climb. Various herbivorous and woody plants, including some unusual varieties. If you don't know poison ivy, there's lots to see (and learn to avoid).

Let's plan on meeting at the fee paying area at 9 AM (Lenore has a park pass, so we might carpool in from there). The Visitor's Center is lovely and has a large binder with flower photos.

From northeast Denver: follow Santa Fe Drive south, exit onto Titan Road and follow west, then curve south onto Roxborough Road. Remain on Roxborough past Safeway shopping center until it ends (do not follow into residential Roxborough Park gated area) turn right onto dirt road instead, then take first right turn and follow to park entrance and fee paying area. Visitor Center is 2 miles farther on same road.

From southwest Denver: follow C470, exit onto CO 121 (Wadsworth) and follow to left hand turn onto Waterton Rd (instead of entrance to Lockheed Martin). Waterton Rd curves to the left and leads to traffic light by Roxborough Road (area with Safeway shopping center). Turn right at light and follow Roxborough to park entrance as stated above. Register by contacting Lenore Mitchell at [mitchellenore89@gmail.com](mailto:mitchellenore89@gmail.com). Participants wishing to carpool from Hampton and Wadsworth contact Jannette Wesley, 720-771-8681 or [metrodenverconps@gmail.com](mailto:metrodenverconps@gmail.com)



## WILLIAM FREDERICK HAYDEN PARK

Friday, May 4, 9:00 am

**Location:** Just west of Ken Caryl inside the Dakota Hogback

**Leader:** Lenore Mitchell, Instructor, Native Plant Master Program

Directions: From C470, exit onto Ken Caryl Rd, follow west past traffic light, then turn left at stop sign onto South Valley Rd and follow to well-marked main north entrance to parking lot.

Gentle rolling trails with red rock formations and a bevy of spring bloomers, from *Lomatium orientale* (salt and pepper), loads of *Leucocrinum montanum* (sand lily), *Lithospermum incisum* (narrowleaf puccoon) and *Toxicoscordion venosum* (death camas) as well as many early-blooming woodies. Lenore has taught NPM classes for several years at South Valley.

Register by contacting Lenore Mitchell at [mitchelllenore89@gmail.com](mailto:mitchelllenore89@gmail.com)

## EXPLORING COLORADO'S LICHENS - II

Sunday, June 10, 2012, 9am – 3pm

**Presenter:** Ann Henson, Past-President of CoNPS, lichen enthusiast

Join Ann in leisurely walks to learn about lichens of trees, soil, moss and rocks. No experience is needed. Some of our lichen trips may be off-trail on rougher terrain than on other trips. Location details will be decided based on weather about a week before scheduled – but generally will be along the Front Range between Ft Collins and Denver. Be prepared to carpool. Bring lunch, water, hand lens. Not all trailheads will have restrooms. Dress according to weather, knowing we will not really 'hike', but will be standing and crawling slowly across the earth ! .

Please register with Ann Henson at 303-772-8962 or [ahenson@kwabena.us](mailto:ahenson@kwabena.us). Size of group limited to 8 or less.

## KENOSHA PASS

Saturday June 16, 9:00 am

**Leader:** Lenore Mitchell, Instructor, Native Plant Master Program

Directions: for carpooling, meet at 9am Home Depot large parking lot just south of US285 and east of C470 (exit onto Quincy from C-470) follow Driving separately, follow US285 past Conifer, past Bailey and on to top of 10,000 ft. pass; turn right onto dirt road and drive short distance to main parking area to meet there at 9:45 AM.

We'll hike relatively flat trails beginning through camp/picnic grounds and on through aspen groves and near small stream to search for flowers and woodies. We'll likely find *Thermopsis* (golden banner) and *Aquilegia* (columbine) among others. We may also explore the west side of the pass if time and conditions permit. There are many aspen which provide shade and moisture for various wildflowers.

Register by contacting Lenore Mitchell at [mitchelllenore89@gmail.com](mailto:mitchelllenore89@gmail.com)

## LION GULCH HIKE

Sunday, June 24, 2012

**Location:** 12 miles west of Lyons off Hwy #36 toward Estes Park

**Leader:** Jeanne Willson

7 to 8 miles depending on interest/weather, 12 miles if every participant agrees (in which case our start time would be 6:30 am). Bring the usual Colorado hiking gear - hiking boots, rain gear, 1.5 to 2 liters of water, hiking poles, etc. Please come adequately equipped for very hot to very cold/wet weather. Feel free to contact Jeanne if you have questions about hike preparation, especially if you are new to Colorado.

This hike climbs up a stream valley to a high meadow with remains of old homesteads. A longer version of the hike is 12 miles and visits more old structures. The variety of habitats including meadows and burn areas, and the significant elevation gain (1500 ft or more) provide for huge biodiversity and we can easily see over 100 types of flowering & non-flowering plants. Both novice and experienced botanists will delight in the beauty and the historical aspects of the trip. Hikers

new and old may want to bring a notepad or field book, camera, and field guides. I will provide some handouts of plant lists from previous years, and I'm sure that together we can make the list longer. As always on my trips, we will look at all sorts of natural history and hopefully we will also see interesting insects, birds, geology, and so forth. This is great bear and mountain lion habitat (hence the hike name), and my son has seen bears here.

If every single participant tells Jeanne that they want to do the 12 mile hike BEFORE the day of the hike, then we'll do it. It is a very long day, but it's really interesting!

We will meet in Golden in the Colorado Mountain Club East Lot to carpool, leaving at 7:00 SHARP, and I will try to help Boulder area folks to carpool. We'll have a quick coffee stop on the way, and there is a bathroom at the trailhead. The hike starts about. Please notify me if you want to meet at the trailhead.

Your trip leader, Jeanne Willson, holds a PhD in Botany but more importantly has a deep love for all natural history and for canoeing the rivers and hiking the mountains, prairies, and deserts of the western US and Canada. She is an experienced trip leader and has lead trips for the National Park Service, the Colorado Mountain Club, the Rocky Mountain Canoe Club, and random friends for many years.

Register by contacting Jeanne Willson:  
[riversong@centurylink.net](mailto:riversong@centurylink.net); call with questions at h-303-369-3131 or w-720-228-4128.

## RIVERSIDE REVIVAL TOUR

**Saturday, July 14, 2012, 9:00 am to 12:00 pm**

**Leader: Margaret Foderaro, Botanist, Horticulturist and Plant Enthusiast**

As we tour historic Riverside Cemetery, we will see native plants in their original setting, revegetation plots, raised flower beds with Plant Select plants and a pond. A brief history of the cemetery will be discussed as we take a leisurely walk of the site, looking at the native plants. Through the Fairmount Heritage Foundation's Riverside Revival project, several areas of the cemetery

have been revegetated with native grasses over the course of four seasons in order to establish a sustainable landscape. Bring a hat, binoculars, water and snacks, and wear comfortable walking shoes.

Margaret has worked in the botany and horticulture industries for over 10 years. She is currently the seasonal horticulturist at Riverside Cemetery where she maintains newly revegetated areas and test flower beds of Plant Select plants. Margaret is a member of both the Colorado Native Plant Society and the Colorado Weed Management Association.

Meet at the chapel at Riverside Cemetery, 5201 Brighton Blvd, Denver, CO 80216.

Contact: Margaret Foderaro, [mfoderaro@comcast.net](mailto:mfoderaro@comcast.net) or at 720-212-6041

## GOLDEN GATE CANYON

**Saturday, July 21, 9:00 am**

**Leader: Stan Smookler, Volunteer, Golden Gate Canyon State Park**

Stan Smookler and Linda Senser have been volunteers at Golden Gate Canyon State Park (GGCSP) since 1991 and 1992 respectively. They have been surveying the parks flora over 20 years. The field trip will make a brief stop at the Blue Grouse trailhead where three unusual plants were discovered in 1998. These are *As-ter alpinus*, *Eriogonum flavum* subsp *xanthum*, and *Besseyia plantaginea*. The trip will then proceed to Nott Creek parking lot to hike along a loop trail that includes the Mountain Lion trail and 2 park service roads. These trails will cover diverse landscape ranging from dry meadows and hillsides to wet meadows and riparian habitat.

The minimum equipment recommended for this trip is a 10-power lens and Weber and Wittmann's *Colorado Flora, Eastern Slope*.

With GGCSP being a State Park, a fee of \$7.00 will be assessed on each car. Therefore a car pool has been organized to the Park in order to share expenses. Participants will meet at the junction of I-70 and U.S. Highway 40, at 9 am. Look for the Woolly Mammoth parking lot on Highway 40 west of the junction oppo-

site a CONOCO gas station located across the road from the parking lot.

Linda and Stan published an article on the botany of GGCSP in the spring 2008 issue of *Aquilegia* (pp 14-16). Participants may want to download this article before the field trip from the following URL:  
<http://www.conps.org/pdf/Aquilegia/2008%20Spring.pdf>

Participation is limited, register by contacting Linda Senser at 303-442-7319.

## **SHELF LAKE HIKE**

**Late July, weekend to be determined**

**Location: Guanella Pass**

**Leader: Jeanne Willson**

This 6+ mile, 1500'+ elevation gain hike climbs steeply up out of the Geneva Creek Basin off the south side of Guanella Pass into the high alpine. The subalpine flowers can be diverse and beautiful, but the alpine display may take our breath away, if we are lucky. I think I saw 100,000 larkspur flowers blooming 2 years ago, just for starters. Hikers new and old may want to bring a notepad or field book, camera, and field guides.

The trail is rough, steep, and beautiful most of the way. Please come prepared for a Colorado hike: bring the usual Colorado hiking gear - hiking boots, serious rain gear, 1.5 to 2 liters of water, hiking poles, other 10 essentials, etc. Please come adequately equipped for warm to very cold/wet weather. Feel free to contact me (Jeanne) if you have questions about hike preparation, especially if you are new to Colorado. Our pace will be moderate due to steepness and the high altitude.

We'll meet to carpool at the Park N Ride at Hampden and Wadsworth for a departure at 7 am sharp. Quick coffee/bathroom stop in Conifer. Guanella Pass Road is unpaved and a little rough; the last mile, we'll need high-clearance or 4WD vehicles, so please volunteer to drive if you have an appropriate vehicle.

Your trip leader, Jeanne Willson, holds a PhD in Botany but more importantly has a deep love for all natural history and for canoeing the rivers and hiking the mountains, prairies, and deserts of the western US and

Canada. She is an experienced trip leader and has lead trips for the National Park Service, the Colorado Mountain Club, the Rocky Mountain Canoe Club, and random friends for many years.

Contact Jeanne Wilson for more information at [riversong@centurylink.net](mailto:riversong@centurylink.net).

## **LANDSCAPING FOR HUMMINGBIRDS AND SONGBIRDS**

**Sunday, July 29, 5pm to 8- 8:30pm**

**Location: 4400 Bow Mar Drive, Littleton, CO**

**Leader: Tina Jones**

Plants which Hummingbirds feed on will be discussed, in addition to identifying some of the Hummers. Many of these plants are native to the Southwest and some are native to CO. Tina has had up to 6 species of Hummingbirds in her yard, including an Anna's Hummingbird which spent 4 months at Tina's house, from Oct. to Jan. Along with Hummingbirds Tina has many songbirds, of which some nest in her boxes. Many shrubs have been planted for the birds, including Barberry (*Berberis fendleri*), and the unusual wild Buckthorn from the western slope [*Rhamnus smithii*]. Other native shrubs are abundant. Tina had a pair of Mountain Chickadees and a pair of Red-breasted Nuthatch nest in her bird boxes. There is minimal walking and one can bring a stool to sit on, to observe the birds. Bring a hat, water, snacks or your dinner, binoculars, stool to sit on, sunblock, and hand lens and bird field guide if you desire.

Class is at, and participants meet at, 4400 Bow Mar Dr., Littleton, CO (instructor's house). From Fort Logan Cemetery, go S. on S. Sheridan to the intersection of W. Quincy and S. Sheridan, drive SOUTH ON Sheridan to the first stop sign (which is just S. of W. Quincy and S. Sheridan). At the stop sign take a right onto Sunset (head west). Go west about one mile to Bow Mar Dr. Take a right on Bow Mar Dr. and go north to the FIRST driveway on your right. This is 4400 Bow Mar Dr. Do not park in driveway unless you are handicapped. PARK on the WEST side of Bow Mar Dr., across from 4400. so that your car is half on the grass and half on the road, underneath the large Cottonwoods. Do not park on the east side of Bow Mar. Thank you!

Tina developed a love of Arctic and Alpine plants while studying at University of Colorado. She has taught classes on Alpine Plant Adaptations and Edible and Medicinal Plants for the Denver Botanic Gardens, and for the Denver Museum of Nature and Science. In the late 1980's Tina was Vice President of the Colorado Native Plant Society, and helped organize the CoNPS annual convention at the Denver Museum of Nature and Science.

CONTACT : RSVP by July 23 to Tina Jones at [tjcalliope@hotmail.com](mailto:tjcalliope@hotmail.com) . PLEASE leave your contact phone number when you email Tina. Call with questions: 303-906-5479.

### **GOLDEN GATE STATE PARK**

**August 10, 2012, 9:30 am**

**Leader: Judy King, Certified Native Plant Master and Volunteer for Golden Gate Canyon State Park**

Participants will be looking for the rare *Senecio rapifolius*, the Yellow Owl Clover (*Orthocarpus luteus*), the *Bahia dissecta*, Little Gentian (*Gentianella acuta*), Bigelow Groundsel (*Ligularia bigelovii*), Tassel flower (*Brickellia grandiflora*) and many other flowers. The hike will be approximately 5 miles with 1,000 foot elevation gain. This is one of the more difficult hikes, but well worth it. Very moderate pace. With GGCSF being a State Park, a fee of \$7.00 will be assessed for each car. Therefore a car pool will be organized to the Park in order to share expenses.

Participation is limited, register by contacting Judy King at 303-984-2987.

### **PLATEAU CHAPTER**

#### **RED ROCKS RESEARCH TRIP**

**May 15 – 16, 2012**

**Leader: Peggy Lyon**

Two-day trip along a trail near Gateway. Members will help identify plants along the trail and stay in the Gateway Resort the night of May 15<sup>th</sup> (limited to 8 people at a reduced rate).

Contact: Sara Ungrodt for registration and/or more information, 249-1115 or 209-3114.

### **SKIFF MILKVETCH (ASTRAGALUS MICROCYMBUS) FIELD SURVEY**

**June 1– 2, 2012 (camp Thursday & Friday nights)**

**Leader: Bernadette Kuhn**

We need your help to find more populations of one of the rarest plants in western Colorado! Join other volunteers with botanical skills searching for and counting numbers of skiff milkvetch (*Astragalus microcymbus*). This species is being threatened by recreational use and development, so the BLM and the Fish and Wildlife Service need our help to make sure this species is given adequate protection. All training and meals will be provided.

What do CoNPS members get out of it?

1. Training on identification of one of the rarest plants in western Colorado.
2. An incredible view of the Gunnison Basin.
3. Friday lunch!

Contact Bernadette Kuhn (CO Natural Heritage Program) for registration at [bernadettekuhnconps@gmail.com](mailto:bernadettekuhnconps@gmail.com).

### **TENTATIVE POLLINATOR WORKSHOP AND FIELD STUDY**

**June 9, 2012**

**Leaders: Eric Rechel and Gina Glenne.**

Contact: Gay Austin for registration and/or more information, [austinaceae37@roadrunner.com](mailto:austinaceae37@roadrunner.com) or 970-641-6264.

### **SAGEBRUSH & SPRING WILDFLOWERS FIELD TRIP**

**June 16/23rd**

**Location: Uncompaghre Plateau**

Jeanne Wenger may lead this field trip. The wildflowers in the sagebrush plant communities on the Uncompaghre Plateau offer great viewing opportunities in the spring. Come learn some of the common wildflowers! Gorgeous views and easy hiking. Beginners to experts are welcome on this field trip. Easy hiking in uneven terrain.

Contact: Gay Austin for registration or more information, [austinaceae37@roadrunner.com](mailto:austinaceae37@roadrunner.com) or 970-641-6264.

## GRAND MESA WILDFLOWERS

July 14, 2012

Leader: Betty Hall

Deep winter snows and ample spring moisture has created showy wildflower displays at the higher elevations in western Colorado. We may see Grand Mesa penstemon, Eastwood's podistera, Rothrock's Townsend daisy (*Townsendia rothrockii*), and tall larkspur. Easy walking. Please come enjoy the wildflowers and learn some new ones!

Contact: Gay Austin for registration or more information, [austinaceae37@roadrunner.com](mailto:austinaceae37@roadrunner.com) or 970-641-6264.

## TAYLOR PARK FEN FIELD TRIP

July 27–28, 2012 (camp Friday night)

Location: Gunnison Basin, Taylor Park

Come learn what a fen is & how they formed in Taylor Park after the Pleistocene. See a wide diversity of fens and some of the unusual plants that inhabit them. We will likely see simple bog sedge (*Kobresia simpliciuscula*), yellow marsh saxifrage (*Hirculus prorepens*), lesser panicked sedge (*Carex diandra*), and lesser bladderwort (*Utricularia minor*). Hotels are available in Gunnison or you can camp Friday night. We will get an early start Saturday morning to avoid lightning. Easy hiking with rubber boots but rough hummocky terrain.

Contact: Gay Austin for registration or more information, [austinaceae37@roadrunner.com](mailto:austinaceae37@roadrunner.com) or 970-641-6264.

## ICE LAKES FIELD TRIP

August 3– 4, 2012 (camp Friday)

This trip follows a Forest Service trail through a wide variety of plant communities and high elevation wildflowers. Learn some of the more common alpine wildflowers. Beginners to experts are welcome. Moderate walk. The Ice Lake Basin Trail is about 8 miles round trip with a 2500 foot elevation gain to 12,300 feet elevation at Ice Lakes; Lower Ice Lake is at about 11,400 feet elevation. We will start early Saturday morning to hopefully avoid thunderstorms. Camping Friday night is available at South Mineral Campground (\$17/night), San

Juan National Forest. Silverton and Ouray hotels are also nearby. Access is by Forest Road 585 (San Juan County Road 7), off of US Hwy 550 between Red Mountain Pass and Silverton, 20.6 miles south of Ouray. The campground is four miles from the highway and the road is open to 2WD cars.

Contact: Gay Austin for registration and/or more information, [austinaceae37@roadrunner.com](mailto:austinaceae37@roadrunner.com) or 970-641-6264.

## SOUTHEAST CHAPTER

All trips start in the morning and go into the afternoon. The time or duration of each trip will depend on the distance traveled and the number of plant species observed. Except as noted, participants should bring a lunch, plenty of water, their favorite flora keys, 10X hand lens, and rain gear.

The Southeast Chapter welcomes everyone from professional botanists to beginners. Beginners may experience "plant terminology shock." However, with increased participation, the terminology will become a familiar and even enjoyable part of the learning experience.

REGISTRATION: Advanced registration is required since leaders typically limit participation to somewhere between 10 and 15 persons. E-mail your name, trip date, and phone number (in the event of a last minute cancellation), to [SEtrips@gmail.com](mailto:SEtrips@gmail.com). You will be contacted by reply email to confirm your registration or, if a trip is full, given the option of being wait-listed.

Important: An announcement with details on each trip is e-mailed two to three weeks in advance of each trip date. Details may include exact meeting locations, directions to the trailhead, and/or car pooling information. These detailed announcements will be emailed to you after you register.

Please see [conps.org](http://conps.org) for field trip policies. Following are some of the basic policies.

- Refrain from plant collecting except for scientific study.

- Share rides and pay the driver.
- No pets on trips.
- Trips are typically aimed at adult audiences unless otherwise specified.
- Participants must sign a waiver and release of liability form. The written policies and waiver form can be found at the bottom of the Field Trips page.
- Please be sure to notify the trip leader if you need to cancel, otherwise everyone will be waiting for you at the meeting place.

## THE "ESSENTIAL BOTANY" WORKSHOP

**Saturday, April 28, 2012, 9:00 a.m. to 2:00 p.m.**

**Location:** Meeting room and garden area of the SE Colorado Water Conservation District, Pueblo  
**Team taught by** Dr. Neal Osborn with assistance from Linda McMulkin and Ed Roland

A class on the botany you need to know to effectively use keys like "Colorado Flora Eastern Slope." Then you get lots of practice and coaching using native plants from the garden. (Co-Sponsored by CSU-Pueblo Extension and the SE Chapter of the CoNPS.)

## SHEEP CANYON (the one in southeast Colorado)

**Saturday, May 19, 2012**

**Location:** Comanche National Grassland  
**Leader:** Steve Olson, Botanist - USFS  
**Rating:** Moderate

Another exceptional canyon selected by Steve for this early season botanizing trip to the "grasslands." As in the past, we'll organize a carpool and share the cost of gas for our drive across the beautiful plains of southeast Colorado.

## UTE VALLEY PARK

**Saturday, May 26, 2012**

**Location:** Ute Valley Park, Colorado Springs (off Vindicator Dr. just west of I-25)  
**Co-Leaders:** Doris Drisgill and Jeff Jones  
**Rating:** Easy

Doris and Jeff will lead you across the sedimentary geology of Ute Valley Park to find interesting avian and botanical species.

## UP THE GREENHORN

**Saturday, June 9, 2012**

**Co-Leaders:** Dr. Neal Osborn - Prof. Emeritus, CSU-Pueblo, and Ed Roland  
**Location:** Cuerno Verde TH (near Rye, CO)  
**Rating:** Moderate

A leisurely trip to one of the upper canyons of Greenhorn Creek. We'll see native shrubs such *Jamesia americana*, *Holodiscus*, *Ribes* and *Rhus* spp., plus many herbaceous natives in an area known for its botanical diversity.

## PIKE'S PEAK AND ELK PARK

**Saturday, June 16, 2012**

**Location:** Pike's Peak tollgate  
**Co-Leaders:** Doris Drisgill and George Cameron  
**Rating:** Easy

Doris will meet you at the tollgate (expect to pay an entrance fee of about \$7 per person) so everyone can carpool up to beautiful Elk Park Knoll at 12,000 ft. to search for early tundra blooms.

## THE RIPARIAN FOOTHILLS OF EMERALD VALLEY

**Saturday, June 23, 2012**

**Location:** Cheyenne Canyon near Colorado Springs  
**Co-Leaders:** Doris Drisgill and George Cameron  
**Rating:** Moderate

We'll carpool up the Old Stage Road to about 8,000 ft. elevation to see the rare *Cypripedium calceolus* and associated streamside plants.

## BIRDS AND BOTANY

**Saturday, June 30, 2012**

**Location:** Trout Creek Riparian Corridor  
**Leader:** Jeff Jones - avian specialist / naturalist  
**Rating:** Moderate

Trout Creek is known as "the jewel of Teller County" for birders. Jeff will lead you through this exceptional habitat to show you first hand the interrelationship of

our avian species and the native plants they depend on for food and shelter.

### **THE GARDEN OF EDEN (the one on Pike's Peak)**

**Saturday, July 7, 2012**

**Location: Pike's Peak**

**Co-Leaders: Doris Drisgill and George Cameron**

**Rating: Easy**

This "Garden of Eden" is the lush, mid-to-upper montane riparian area located just below Catamount Reservoir on "the Peak." Doris will meet you at the tollgate (expect to pay an entrance fee of about \$7 per person) so everyone can carpool up to this exceptional narrow valley and its impressive rock formations.

### **NEWLIN CREEK**

**Saturday, July 14, 2012**

**Location: trip starts at the Florence Mountain Park TH**

**Leader: Steve Olson, Botanist -**

**USFS**

**Rating: Moderate**

A cool and shady meander along Newlin Creek to find two or three of the *Corallorhiza* that occur in Colorado, and a good possibility of seeing the very rare Selkirk's Violet (*Viola selkirkii*), along with many other species to interest just about any botanist.

### **HOOSIER PASS**

**Saturday, July 21, 2012**

**Location: Hoosier Pass (about 20 mi. north of Fairplay, Co.)**

**Leader: Steve Olson, Botanist -**

**USFS**

**Rating: Moderate**

The perfect time of year to see the exceptional alpine species in this area. It's a bit of a drive, but we'll organize a carpool to share the gas money . . . and also share a superb field trip! The pass is at 11,541 ft. elevation, so practice your breathing.

### **EAST LOST PARK "BIO-BLITZ"**

**Monday through Wednesday, July 23, 24 & 25, 2012**

**L-eader: Steve Olson, Botanist - USFS**

A multi-species survey of this exceptional area as part of its designation as a State Natural Area. The emphasis for CoNPS members is, of course, botanical. But, if you have expertise in entomology, ornithology, mammalogy . . . or anything else biological, Steve can likely use your help! His email address is [solson01@fs.fed.us](mailto:solson01@fs.fed.us).

### **THE 2012 GRASS I.D. WORKSHOP AT AIKEN CANYON**

**(Co-Sponsored by the NRCS, SE Chapter of the CoNPS, and CSU Extension, Pueblo)**

**Saturday, July 28, 2012, 9 a.m. to about 3 p.m.**

**Location: Aiken Canyon (a Nature Conservancy preserve), near Co. Springs**

**Instructors:**

**Rich Rhoades - District Conservationist, NRCS**

**Kimberly Diller - Rangeland Mgt. Specialist, NRCS**

**Steve Olson - Botanist, USFS**

**George Cameron - Instructor, PPCC (Colo. Springs)**

The morning session by the Natural Resources Conservation Service is an introduction to (or review of) the morphology of grasses. Then practice your in-the-field ID skills in a small group under the tutelage of an expert instructor.

### **TURQUOISE LAKE OVERNIGHTER (the first of two Southeast Chapter 2-day trips!)**

**Saturday & Sunday, August 4 & 5, 2012**

**Location: Turquoise Lake Recreation Area**

**Co-Leaders: Doris Drisgill, George Cameron, Steve Olson**

**Rating: Easy to Moderate**

We'll choose from eight campgrounds to overnight, then Doris, George and Steve will lead us through willow carrs and bogs along the Colorado Trail to find Mountain Laurel, Twayblade Orchids and other species seldom seen in the dryer, lower elevations of the SE Chapter area. *The Colorado Guide* says this section of the trail is "spectacular." (Campground reservations required. Lodging is also available in nearby Leadville.)

*NOTE: This is a joint trip with the new Gore Range Chapter.*

**HOLT CANYON OVERNIGHTER** (the second  
Southeast Chapter 2-day trip for 2012)  
Saturday & Sunday, September 15 & 16, 2012  
Location: Holt Canyon, Comanche Grasslands east of  
Kim, Co.  
Leader: Steve Olson, Botanist - USFS  
Rating: Moderate

Near the Oklahoma Border, this area is better-known for the nearby Picture Canyon and its many Paleo-Indian artifacts. But, with its perennial springs and species such as Cardinal Flower (*Lobelia cardinalis*) and numerous lip ferns, it also offers exceptional opportunities for botanizing.

**NOTE:** Primitive, distributed camping only. RV accessible. Spring water available in the Canyon.

## NATIVE PLANT PHOTOS NEEDED

Photographs of native plants are needed to create an online wildflower slideshow as part of the Colorado Native Plant Society Archives Collection. The digital photos will be displayed and saved in the Regis University Digital Repository (RUDR), which will go live later this year. For more information, contact Jan Loechell Turner at [jltturner@regis.edu](mailto:jltturner@regis.edu) (don't forget the L after the J) or 303-458-4262.

## ADOPT-A-RARE PLANT AND RARE PLANT MONITORING PROGRAMS 2011 WRAP-UP

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On January 19<sup>th</sup>, Brian Kurzel (CO Natural Areas Program), Jill Handwerk (CO Natural Heritage Program) and Jennifer Ramp Neale (Denver Botanic Gardens) and their staffs met with volunteers of the Adopt-a-Rare Plant (ARP) and Rare Plant Monitoring Programs (RPM) to wrap up a very successful 2011 field season.

The Adopt-a-Rare Plant Program, which was described in the last issue of *Aquilegia* (and on our web site) was revived last year as a collaborative effort between the Colorado Natural Heritage Program, Denver Botanic Gardens, and the Colorado Native Plant Society after a several-year hiatus. The program was revived in order to update records of the increasing numbers of rare plant populations that had become "historic" meaning having not been seen in over 20 years. In addition, those plant communities, which were last seen in the mid-1980s were documented before GPS was widely available, so their locations were not precisely identified.

When it comes to imperiled species in Colorado, 75% of them are plants. More than 500 plants are tracked by the Colorado Natural Heritage Program (CNHP). With

limited people and financial resources to update records, the ARP program is designed to increase the impact that volunteers can have on conserving our rarest plants. So last year CNHP and the Gardens trained more than 30 new volunteers to help rediscover lost populations. During the field season these volunteers spent over 325 hours scouring the countryside. They visited 17 species at 25 sites and relocated 15 historical occurrences.

The program was such a success, they are going to expand it this year. The last *Aquilegia* announced a training for new volunteers in February with another one scheduled in early May on the West Slope. Check the website for details about the West Slope training. If you'd like to participate outside of adopting a species, the Natural Heritage Program needs help entering the data from the 2011 visits into their database. Contact Jill Handwerk: [jill.handwerk@colostate.edu](mailto:jill.handwerk@colostate.edu) for more information.

The Rare Plant Monitoring Steward Program is somewhat different than the Adopt-a-plant Program because volunteers are presented with many options for



involvement from working on their own, monitoring plants which are being tracked in permanent research plots over multiple years, to assisting with CNAP and DBG projects, to scouting sites for seed collection.

To educate more people about rare plants and to empower the public to help conserve these rare species, the Colorado Natural Areas Program and the Gardens set up the Rare Plant Monitoring Steward Program. Each year volunteers contribute to conservation within the state through this program. Some of the work that they accomplished last summer was:

- Monitoring the annual population flux of *Sclerocactus glaucus* in 11 sites.
- Tracking two populations of *Penstemon harringtonii*, which has been tracked for 16 years which have been generally stable over the course of the study.
- Monitoring a population of *Astragalus microcymbus* which has been monitored since 1995 and is threatened by predation from small mammals. Exclosures have been set up at some of the plots to see if fruit production will increase in the absence of browsing.
- Monitoring population trends of *Physaria congesta* on private property bisected by a road.

One aspect of the Rare Plant Monitoring Steward Program involves Stewards in the scouting of populations targeted for seed collection by the Gardens. Mary Goshorn from the Gardens talked about the seed collection they do as a participating institution in the Center For Plant Conservation. The CPC is a nation-wide consortium of 36 plant institutions which are collecting seeds of rare and endangered plants to maintain off-site and to use for restoration efforts in case they become extinct. The Gardens steward more than 60 rare and endangered species storing seed both at the Gar-

dens and at the National Center for Genetic Resources Preservation, a USDA facility in Fort Collins. Last summer the Gardens staff and volunteers visited numerous sites to collect seeds for several endangered species. The long-term goal is to collect seeds from all of the rarest plants in Colorado (all species listed as G1 and G2).

Despite how simple seed collection sounds, it is quite a challenge because someone has to find the populations first and then figure out when they will produce fully mature seeds. Unless you are very lucky, you must visit populations several times. Volunteers are essential to serve as advance scouts to find the populations and estimate when they will produce seeds. This is fun work that with a bit of training, anyone can do.

In all, volunteers put in over 1,100 hours on these various projects in 2011 alone. All three organizations have identified their target species for 2012 and are putting their field season schedules together. By joining one of the programs you too, can help conserve rare plants in Colorado. The Rare Plant Monitoring Steward Program training will take place in the Piceance Basin May 11-12, 2012. You can register for the training through the Denver Botanic Gardens website.



*Penstemon debilis*, monitored by RPM stewards

“When the ground was partially bare of snow, and a few warm days had dried its surface somewhat, it was pleasant to compare the first tender signs of the infant year just peeping forth with the stately beauty of the withered vegetation which had withstood the winter—life-everlasting, goldenrods, pinweeds, and graceful wild grasses, more obvious and interesting frequently than in summer even, as if their beauty was not ripe till then; even cotton-grass, cat-tails, mulleins, johnswort, hard-hack, meadow-sweet, and other strong-stemmed plants, those unexhausted granaries which entertain the earliest birds—decent weeds, at least, which widowed Nature wears.”

— Henry David Thoreau, *Walden*

# BOOK REVIEW

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By Jan Loechell Turner

***Attracting Native Pollinators: Protecting North America's Bees and Butterflies*, by Eric Mader, Matthew Shepherd, Mace Vaughan, Scott Hoffman Black, and Gretchen LeBuhn. (The Xerces Society Guide). North Adams, MA: Storey Publishing, 2011. \$29.95. ISBN 978-1-60342-695-4**

This book will inspire you to action. It is likely that the readers of *Aquilegia* are aware of the important roles played by native plants, but this book provides information to empower the reader to take concrete actions to protect and promote native plants and pollinators in North America. *Attracting Native Pollinators* is an action guide for the conservation of native pollinators. The authors provide many ideas that can be used by individuals and organizations, children and adults, to create habitats that incorporate native plants to provide food, shelter, areas for reproduction, and overwintering sites needed by native pollinators.

Encyclopedic in its scope, *Attracting Native Pollinators* contains over 350 pages of information and color photographs describing and illustrating native bees, butterflies, and other insects that pollinate the native plants, agricultural crops, weeds, and garden plants that grow in North America. There are many threats to the survival of the pollinators, and this book describes strategies to help overcome the threats and to provide pollinator-friendly habitats in a variety of surroundings from urban areas to suburban yards, parks, golf courses, schools, and farms. Nature lovers will be inspired by the ideas and activities that can make a difference for the survival of pollinators.

The book is divided into four sections: 1. Pollinators and pollination; 2. Taking action; 3. Bees of North America; and 4. Creating a pollinator-friendly landscape. The first section of the book explains why pollinators are important and provides introductory information about the pollination process and a discussion of the life cycle and habitat requirements of native pollinators including solitary bees, social bees, wasps, flies, butterflies, moths, and beetles. In addition to native insects,

honeybees are also included. The descriptions are beautifully illustrated with photographs and diagrams. Threats to pollinators are next described. These include loss, degradation, and fragmentation of their habitats, the impact of alien species, diseases, climate change, and genetically modified crops.

The largest portion of the book, Part 2, discusses what you can do to conserve pollinators. This section is filled with ideas and examples to achieve this goal. Insects need a diversity of plants that bloom at different times so they have a continuous supply of nectar and pollen. They need nesting and overwintering sites which may mean open, undisturbed ground for the bees that overwinter in underground tunnels, wood with tunnels, rock piles, or vegetation that has died for the winter and covers the ground. This may mean leaving part of your yard undisturbed for the bees and other pupating insects such as moths and butterflies and reducing or eliminating the use of insecticides or herbicides. Weeds may be a good source of early or late forage for pollinators. This can be especially important near farms with monoculture crops that all bloom at the same time. Although noxious weeds must be removed, weeds such as dandelions may provide pollen and nectar for insects when no other plants are blooming.

The authors describe the impact of land management practices on pollinators and ways to reduce harm. They discuss provision and protection of nests, pupating, and overwinter sites, home, school, and community sites, pollinator conservation on farms, natural areas, urban green spaces, parks, and golf courses, business and school campuses, highway and railroad right-of-ways, and industrial parks. Plans for building artificial nesting sites, such as wooden nest blocks, are provided. A number of case studies, including the Great Sunflower Project in San Francisco ([www.greatsunflower.org](http://www.greatsunflower.org)), are described. Thousands of people throughout the United States have participated in the program by planting sunflower seeds provided by the Project, and collecting data on the bees

that visit the sunflowers. Many projects described in the book would be fun for families and for schools.

Part 3 of the book is an illustrated color encyclopedia of bees of North America arranged by family and covering the taxonomy of bees, tips for distinguishing bees from flies, wasps, and other insects, and a lengthy guide to bee identification to the genus level, which includes a description, photo, their distribution, nests and foraging information, and conservation concerns.

Part 4 provides you with plant choices for your pollinator-friendly yard. An illustrated list of pollen and nectar producing plants and host plants (many native and some non-native) is arranged alphabetically by common name. Because the book is designed for all of North America, many plants are listed only by genus, although a number of species are mentioned in the text. Native wildflower genera of our area are in the list including *Helianthus*, *Penstemon*, *Liatris*, *Gaillardia*, *Lupinus*, *Asclepias*, *Dalea*, *Scrophularia*, *Hydrophyllum*, and *Phacelia*, among others. Entries include common and scientific name, sun exposure, soil moisture requirements, bloom time, flower color, maximum height, regions (which may be broad or may include specific states), whether it a host plant, and which insect it hosts. This is followed by information about the plant which includes insects that it attracts with its pollen and/or nectar. As an example, the figwort (*Scrophularia* spp.) entry states that the figworts, including *S. lanceolata* “are prolific nectar producers. They often leave clothes and skin wet with sticky nectar... (and) draw huge numbers of bees, wasps, flies, and hummingbirds, especially when planted in large numbers. Because of their nondescript flowers, figworts are difficult to find through commercial vendors” (p. 287). Native shrubs on the list include *Holodiscus*, *Mahonia*, *Chrysothamnus*, and *Ribes aureum*. Lists of garden plants (basil, oregano, catnip, lavender, etc.), and native and non-native bee pasture plants are also provided. A section on host plants for butterflies, illustrated with excellent photos of the butterflies, is arranged by butterfly common name followed by a list of native host plants and introduced host plants.

The authors promote native plants as the best choice for supporting native pollinators and biodiversity. Evidence is cited from studies by Gordon Ritchie (p. 106)

and Douglas Tallamy (p. 106-107) which revealed that native plants are four times more successful in providing habitat for native bees and support three times the species of butterflies and moths than do non-native plants. Native woody plants in the garden support 14 times as many butterfly and moth species as introduced woody plants. For more information on butterflies and native plants, check out *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants* (book review, *Aquilegia*, Spring 2008 p. 7; <http://www.conps.org/pdf/Aquilegia/2008%20Spring.pdf>). The importance of using of seeds from local ecotypes that are adapted to local conditions is emphasized and seed companies are listed in the appendix, but the list is brief and does not include seed companies specifically for Colorado. These can be found on the CoNPS website at [www.conps.org/committee/horticulture.shtml](http://www.conps.org/committee/horticulture.shtml). Also contained in the appendices are ideas for educators and parents, a glossary, and resources including books, organizations, websites, and nesting equipment suppliers.

*Attracting Native Pollinators* is produced by the Xerces Society, a nonprofit organization founded in 1971 to protect insects and other invertebrates in North America. The Society was named for the extinct Xerces blue butterfly (*Glaucopsyche xerces*). Their Red List of endangered bees and Red List of butterflies and moths can be viewed at [www.xerces.org/red-lists](http://www.xerces.org/red-lists). Although we recommend that you purchase this book to support the work of the Xerces Society, those on a limited budget should be aware that the book is available for checkout from a number of libraries in Colorado and Wyoming. Even if your local library does not own the book, if it is a participating member of Prospector, <http://prospector.coalliance.org>, you may request the book, and it will be delivered to your library in approximately 7 days so that you can check it out.

*Jan Loechell Turner is a member of the CoNPS Board of Directors, and has served CoNPS in a number of capacities. She and her husband, Charlie Turner, are authors of Wildflowers of Canyon de Chelly, Wildflowers of Mesa Verde, and Wildflowers of Red Rocks Park.*

## A CoNPS WORKSHOP: UTILIZING THE CORRECT RIPARIAN AND WETLAND PLANT MATERIALS FOR RESTORATION IN COLORADO

Saturday, May 12, 10 am to 2 pm,  
Boulder County Fairgrounds, Longmont, CO

Presenter: Randy Mandel, Senior Restoration Ecologist,  
Golder Associates Inc.

Cost: \$25

Randy will provide a tutorial on how to choose the correct wetland and riparian species for restoration use in Colorado. He'll start by identifying specific environmental suites and their site-specific placement. Then he'll discuss how to distinguish the major willow and other important woody riparian species from one another. If

botanical keys are your main resource for identifying willows, you'll appreciate Randy's tangible approach that focuses on one or two key characteristics. You'll be able to take this information directly from workshop to field. Come prepared to examine herbarium and field samples.

For additional information and to register, visit [www.conps.org](http://www.conps.org), click on the Activities/Workshops page. You can pay with PayPal or credit card, or send a check made payable to CoNPS to: CoNPS, c/o Linda Smith at 4057 Cottonwood Dr, Loveland, CO 80538.

## SOCIETY NEWS AND ANNOUNCEMENTS

### PRESIDENT'S LETTER

2011 was a great year for me and the City of Fort Collins Natural Areas Department. As most of you know I am the Botanist for the Natural Areas Department and have been for the past 20 years.

For the past 4 years I have been performing rare plant surveys along with a great group of volunteers. To date we have documented 31 rare plant species within the 35,000 acres that the City owns and manages. Below is a list of the rare species that have been documented along with the Colorado Natural Heritage Program (CNHP) rating.



| Species Name                 | Common Name                | Colorado Natural Heritage Program Rating                    |
|------------------------------|----------------------------|---|
| <i>Acorus calamus</i>        | sweetflag                  | G4? SH  |
| <i>Agalinis tenuifolia</i>   | slenderleaf false foxglove | Under consideration to be added in 2012, waiting on status. |
| <i>Agrimonia striata</i>     | roadside agrimony          | Under consideration to be added in 2012, waiting on status. |
| <i>Aletes tenuifolius</i>    | slender wildparsley        | G4 S2   |
| <i>Argyrochosma fendleri</i> | Fendler's lipfern          | G3 S3   |
| <i>Aristida basiramea</i>    | forked threeawn            | G5 S1   |
| <i>Azolla mexicana</i>       | Mexican mosquitofern       | Under consideration to be added in                          |

| Species Name   | Common Name                  | Colorado Natural Heritage Program Rating                    |
|--|------------------------------|---|
|  |                              | 2012, waiting on status.                                    |
| <i>Besseyia wyomingensis</i>                           | Wyoming kittentails          | G5 S1   |
| <i>Callitriche heterophylla</i>                        | two-headed starwort          | G5 S1   |
| <i>Carex crawei</i>                                    | Crawe's sedge                | G5 S1   |
| <i>Carex lasiocarpa</i>                                | slender sedge                | G5 S1   |
| <i>Cirsium flodmanii</i>                               | Flodman's thistle            | Under consideration to be added in 2012, waiting on status. |
| <i>Eleocharis atropurpurea</i>                         | purple spikerush             | Under consideration to be added in 2012, waiting on status. |
| <i>Eustoma grandiflorum</i>                            | prairie gentian              | G5 S3S4   |
| <i>Glaux maritima</i>                                  | sea milkwort                 | Under consideration to be added in 2012, waiting on status. |
| <i>Hemicarpha micrantha</i>                            | smallflower halfchaff sedge  | Under consideration to be added in 2012, waiting on status. |
| <i>Liatris ligulistylis</i>                            | blazing star                 | G5? S1S2  |
| <i>Lobelia siphilitica</i> var. <i>ludoviciana</i>     | great blue lobelia           | Under consideration to be added in 2012, waiting on status. |
| <i>Naumburgia thyrsoflora</i>                          | tufted loosestrife           | G5 SH   |
| <i>Nuttallia speciosa</i>                              | jeweled blazingstar          | G3? S3?   |
| <i>Oenothera coloradensis</i> ssp. <i>coloradensis</i> | Colorado butterfly plant     | G3T2 S1, Federally Threatened                               |
| <i>Oxybaphus decumbens</i>                             | narrowleaf four o'clock      | G5 S1   |
| <i>Pedimelum esculentum</i>                            | large Indian breadroot       | Under consideration to be added in 2012, waiting on status. |
| <i>Penstemon eriantherus</i>                           | fuzzytongue penstemon        | G4 SU   |
| <i>Phacelia denticulata</i>                            | Rocky Mountain phacelia      | G3? S3?   |
| <i>Physaria bellii</i>                                 | Bell's twinpod               | G2G3 S2S3   |
| <i>Ribes americanum</i>                                | American black currant       | G5 S2   |
| <i>Sisyrinchium pallidum</i>                           | pale blue-eyed grass         | G2G3 S2   |
| <i>Spiranthes diluvialis</i>                           | Ute Lady's tresses           | G2G3 S2, Federally Threatened                               |
| <i>Triodanis leptocarpa</i>                            | slimpod Venus' looking-glass | G5?S1   |
| <i>Unamia alba</i>                                     | prairie goldenrod            | G5 S2S3   |

As you can see in the table, there are two species that are considered to be historic occurrences, *Acorus calamus* and *Naumburgia thyrsoflora*, on the list. The City of Fort Collins Natural Areas are the only place in the State where these two species are currently documented. I finally finished my Element Occurrence Reports (EOR) and turned those into CNHP, so the status should change for those two species this year. We also have two Federally Threatened species *Oenothera coloradensis* ssp. *coloradensis* and *Spiranthes diluvialis* documented on the Natural Areas.

When we find a rare plant we document the location using a GPS unit and count the number of bolted plants

that we find. I take notes about the habitat, likelihood of the population surviving, pollinators or other insects, overall condition of the plants and possible threats. All of this information goes into a report that I put together for our staff along with some management considerations for the species.

I will be performing another rare plant survey in 2012 and I am looking for volunteers. If you are interested in coming out to help then contact Susan Schafer at 970-416-2480 and sign up as a rare plant survey volunteer. To find out more about the City of Fort Collins Natural Areas Department go to [www.fcgov.com/naturalareas](http://www.fcgov.com/naturalareas).

## NOMINATIONS SOUGHT FOR CoNPS AT-LARGE DIRECTORS

Four At-Large Directors are completing their terms in 2012, leaving those positions open as of the last 2012 meeting in the fall, Vice-President Bernadette Kuhn announced. She is accepting nominations, which may be made by any CoNPS member. Nominees, who must be Society members and at least 18 years of age, attend CoNPS Board meetings (usually 4 per year), participate in Board business, and vote on issues that come before the Board for a 3-year term. CoNPS By-Laws provide

for 6 to 8 At-Large Directors to serve at any given time; currently there are 6.

Deadline for nominations is May 15. The slate of nominees will be published in ballot form in the summer 2012 issue of *Aquilegia*. Submit your nomination to Bernadette Kuhn, at:

bernadettekuhnconps@gmail.com, or  
CoNPS VP, PO Box 200, Fort Collins, CO 80522

## CHAPTER NEWS and ANNOUNCEMENTS

Please note: The CoNPS website ([www.conps.org](http://www.conps.org)) contains current information on planned chapter and Society activities. In many cases, more detailed information about the programs and guest presenters that could not be included here because of space limitations is contained on the website.

### BOULDER CHAPTER

Boulder Chapter programs are held on the second Thursday of each month (September through April) from 6:30 p.m. to 8:30 p.m. All meetings, except as noted, are held at the Community Room at the Boulder REI Store at 1789 28th Street (between Canyon and Pearl). For more information, please e-mail [boulderconps@gmail.com](mailto:boulderconps@gmail.com).

### GORE RANGE CHAPTER

Hello to all the native plant people hibernating in the mountains!

Thanks to Emily Schwier's hard work this summer, a new chapter of the Colorado Native Plant Society has been formed. The hope is that having a chapter closer to where people live, there may be more interest and greater participation in field trips, master classes and workshops.

Previously, some of us who live in the Gore Range area (mostly Eagle and Summit Counties) were members of the Plateau Chapter, with Gay Austin as President. Gay

has done a fantastic job arranging great field trips as well as helping with last year's annual meeting in Carbondale. I am hoping that the Gore Range and Plateau chapters can collaborate on events in the future - especially since our summers here in the mountains are shorter!

The Plateau Chapter usually has an annual organizational meeting in the fall to plan field trips, master classes and workshops for the next year. Since our chapter is not quite up and running as yet, and winter has set in, I am hoping we can organize via email, and then plan a chapter meeting for fall 2012.

Laurel Potts and Dan Schroeder, Extension Agents for Eagle and Summit Counties, have organized Native Plant Master Classes, Laurel for 8 years. Laurel has sent out an email to previous instructors to poll interest in Native Plant Master Classes for 2012. If you have interest in helping with classes, please contact her at [Laurel.Potts@eaglecounty.us](mailto:Laurel.Potts@eaglecounty.us).

I hope that the new chapter has volunteers willing to put together field trips and possibly a workshop or two. Many of you have local expertise and we all want you to share it with us. Please forward your interest to me so we can put a calendar of events together. You don't have to be a botanist - just take us to your favorite places!

Finally, please consider joining the Colorado Native Plant Society if you have not already done so. This is a group of dedicated volunteers working to encourage the appreciation and conservation of the native plants and ecosystems of Colorado - one of the highest priorities for all of

us. The website has information on activities of the other chapters and a great bookstore to provide reading through the long winter so you can hit the field running in the spring. If you have friends who are interested in native plants, encourage them to join our group.

Thank you for doing all you can to make our local chapter and state society thrive. There is so much to learn - share what you know!

Nanette Kuich, President, Gore Range Chapter CoNPS

## METRO-DENVER CHAPTER

Monthly meetings of the Metro-Denver Chapter are typically held on the fourth Tuesday of the month (September through April) at the Denver Botanic Gardens, 1007 York Street, Denver. The Metro-Denver Chapter welcomes everyone, members and non-members, to attend its free programs and field trips. For more information, please contact Jannette Wesley at [metrodenverconps@gmail.com](mailto:metrodenverconps@gmail.com).

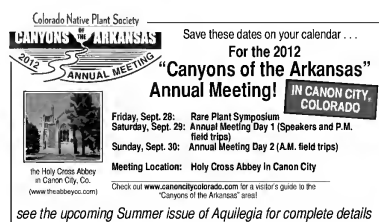
## NORTHERN COLORADO CHAPTER

### MONTHLY MEETINGS NIGHTS HAVE CHANGED

The Northern Chapter meetings are the first Thursday of the month (unless stated otherwise), November through May, 7:00 pm, at The Gardens on Spring Creek, 2145 Centre Ave., Fort Collins, CO. For further information, contact Northern Chapter President, Jennifer Ackerfield, at [jackerfield@gmail.com](mailto:jackerfield@gmail.com).

Meetings and field trips are free and open to all.

Prior to meetings, we meet for dinner with the speaker at Café Vino, 1200 S. College Avenue, Fort Collins at 5:30 p.m. Please join us.



## KEEPING UP WITH TECHNOLOGY – USING ONLINE AND ELECTRONIC KEYS

Thursday, May 03, 2012, 7 p.m.

Presenter: Ernie Marx

Location: The Gardens on Spring Creek, Fort Collins

Ernie Marx will facilitate as we come together for this workshop-style program. Ernie will have plants for us to key using some of the newest programs like XID for keying plants on your computer. These keys can be easier to use than typical dichotomous keys, especially if you don't have both fruits and flowers or all the parts. Once you become familiar with these keys they offer a totally different keying experience. You may bring in a plant if you like and we can investigate your plants too as time allows.

## PLATEAU CHAPTER

The Plateau Chapter generally encompasses the west-central and north west area of Colorado from Grand Junction to Montrose to Gunnison to Glenwood Springs to Craig. Wherever you are in Western Colorado, come join us for meetings and field trips.

Chapter activities are scheduled throughout the year. For more information, visit [www.CoNPS.org](http://www.CoNPS.org) or contact Chapter President Gay Austin at [austiceae@frontier.net](mailto:austiceae@frontier.net).

## SOUTHEAST CHAPTER

Activities of the Southeast Chapter are scheduled throughout the year and include field trips and meetings. Regular chapter meetings (always with an educational focus) will begin in October in both Pueblo and Colorado Springs. Those wishing more information can e-mail us as [SEtrips@gmail.com](mailto:SEtrips@gmail.com).

The Southeast Chapter welcomes your participation, no matter where you are in southeast Colorado. Activities will be scheduled throughout the year with most meetings in Pueblo and field trips to a variety of sites throughout the area.

Southeast Chapter meetings are held from 6:30 p.m. to 8:00 p.m. All meetings, unless otherwise noted, will be held at the 701 Court Street in Pueblo. For more meeting information, please call Warren Nolan: (719) 543-6196.

# WHAT'S THE CHATFIELD REALLOCATION PROJECT

## ... AND WHY SHOULD I CARE?

By Polly Reetz, *Conservation Committee Chair, Audubon Society of Greater Denver*

Chatfield State Park is a critical recreational and environmental resource for the Denver metro area and for out-of-state visitors since its creation in 1974. It hosts approximately 1.5 million visitors annually, who enjoy fishing, boating, swimming, hiking, bird watching, dog-training, scuba diving, horseback riding, photography and other activities. Due to its importance for migrating, nesting and over-wintering bird species, the National Audubon Society has designated Chatfield as an Important Bird Area (IBA), which means it meets several criteria set by the Society. Some 350 species of birds have been recorded at the Park.

A group of water providers is proposing to store an additional 20,000 acre-feet of water in Chatfield Reservoir, which would raise the water level by 12 vertical feet. Since Chatfield is owned by the US Army Corps of Engineers, the National Environmental Policy Act (NEPA) applies; an Environmental Impact Statement (EIS) is required to evaluate the project, alternative water storage, environmental impacts and mitigation. The project is referred to as the "Chatfield Reallocation" because the space behind the dam, once dedicated primarily to flood control and fish and wildlife habitat maintenance, will now be partially reallocated to municipal and industrial water supply uses.

Why should CoNPS be concerned? Much of the Park is recovering farmland and pasture – not good habitat for rare plants. But if we are interested in conserving habitat, and providing opportunities to connect with nature, consider these points:

- Because the water rights owned by the 14 providers are very junior, the water they want to store in Chatfield will be available only an estimated 3 years out of 10, when there is enough precipitation to satisfy all senior water rights and supply the additional water. Therefore, 7 years out of 10 the reservoir will be surrounded by a "bathtub ring" of mud flats, most likely populated by invasive weeds, since the existing riparian vegetation will have to be removed to make the reservoir safe for use when water levels are high (again, 3 years in 10).
- Removal of vegetation and flooding will destroy cottonwood gallery forests, including some very old stands that predate the dam, free-flowing stream segments on the South Platte River, Plum

Creek and Deer Creek, and critical habitat for Preble's mouse. Wetlands will also be lost. Mitigation of these resources may not be possible – how do you recreate a stand of 90-year-old trees? Or a free-flowing stream?

- Alternatives for water storage, such as underground aquifer storage, increased water conservation, storage of water in gravel pits and/or expansion of other existing water storage facilities, have not received SERIOUS consideration in this whole process.
- The State Park will be significantly altered. Picnic areas, swim beaches, the marina, the balloon launch site, and Kingfisher Bridge (across the S. Platte river), for example, will have to be completely relocated, in some cases closer to the noise and traffic of Wadsworth Boulevard. The recreational experience will not be the same.
- Riparian habitat is the scarcest and most valuable habitat type in the state. The Reallocation will destroy or degrade a good-sized chunk of it at Chatfield.

Initially all the parties involved thought that the impacts would be fairly benign, since the project would merely store more water in an existing reservoir. Now it appears that they will be massive and that mitigation of some impacts will be very difficult, if not impossible.

The Audubon Society of Greater Denver and to a lesser extent the Sierra Club have been monitoring the progress of the Reallocation and offering suggestions and comments for many years. They are urging FULL disclosure of the impacts (mud flats 7 years out of 10 for example) and complete mitigation of all environmental impacts.

CoNPS members are urged to get more information about the Reallocation at the providers' website, [www.chatfieldstudy.com](http://www.chatfieldstudy.com) or contact the Audubon Society at 303-973-9530 and [www.denveraudubon.org](http://www.denveraudubon.org). When the Draft EIS is published, probably sometime in 2012, the Army Corps of Engineers will hold public meetings to collect citizens' comments. Watch for the announcement of those meetings, get informed, and above all go out to Chatfield to check out the plant life and habitats that could be lost if this project happens.



## 2011 DONORS

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*The Society gratefully acknowledges those who have contributed in 2011 to our efforts to further the knowledge, appreciation and conservation of native plants and habitats of Colorado through education, stewardship, and advocacy.*

### GENERAL DONATIONS

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### MYRNA P. STEINKAMP MEMORIAL FUND

*For research and other activities  
to benefit the rare plants  
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*For research on the biology and  
natural history of  
Colorado native plants*

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## MEMBERSHIP APPLICATION AND RENEWAL FORM

Name(s) .....  
 Address .....  
 City ..... State..... Zip .....  
 Phone \_\_\_\_ - \_\_\_\_ - \_\_\_\_ E-mail .....

### MEMBERSHIP CLASS

Dues cover a 12-month period.

### CHAPTER

You are free to affiliate with any chapter you choose and to attend the meetings of any chapter. Chapters do not have drawn map boundaries; the locations below indicate the usual meeting place of chapter meetings.

- ☐ Boulder   ☐ Gore Range   ☐ Metro-Denver  
☐ Northern   ☐ Plateau  
☐ Southeast   ☐ Southwest   ☐ Unaffiliated

- ☐ Individual (\$20.00)  
☐ Family / dual (\$30.00)  
☐ Senior (65+) (\$12.00)  
☐ Student (\$12.00)  
☐ Organization (\$30.00)  
☐ Supporting (\$50.00)  
☐ Lifetime (\$300.00)

### OPTIONAL E-MAIL DELIVERY OF *Aquilegia*

Many members prefer to receive the newsletter electronically via e-mail, and this saves the Society considerable printing and postage expense. If you would like to receive the newsletter by e-mail, please check this box and provide your e-mail address above.

- ☐ Please deliver *Aquilegia* electronically to the above e-mail address.

### DONATION

\$ \_\_\_\_\_ General Fund

Endowments in support of small grants-in-aid of research:

- \$ \_\_\_\_\_ John Marr Fund: research on the biology and natural history of Colorado native plants.  
 \$ \_\_\_\_\_ Myrna P. Steinkamp Memorial Fund: research and other activities to benefit the rare plants of Colorado

**Mail to: CoNPS Office, P.O. Box 200, Fort Collins, CO 80522.**

*Please make checks payable to "Colorado Native Plant Society". Dues and contributions are tax-deductible.*

Colorado Native Plant Society



Save these dates on your calendar . . .

## For the 2012 "Canyons of the Arkansas" Annual Meeting!

**IN CANON CITY,  
 COLORADO**



the Holy Cross Abbey  
 in Canon City, Co.  
 (www.theabbeycc.com)

- Friday, Sept. 28: Rare Plant Symposium  
 Saturday, Sept. 29: Annual Meeting Day 1 (Speakers and P.M. field trips)  
 Sunday, Sept. 30: Annual Meeting Day 2 (A.M. field trips)

**Meeting Location: Holy Cross Abbey in Canon City**

Check out [www.canoncitycolorado.com](http://www.canoncitycolorado.com) for a visitor's guide to the "Canyons of the Arkansas" area!

*see the upcoming Summer issue of Aquilegia for complete details*

# Colorado Native Plant Society



The Colorado Native Plant Society is dedicated to furthering the knowledge, appreciation and conservation of native plants and habitats of Colorado through education, stewardship and advocacy.

Membership is open to all with an interest in our native plants and is composed of plant enthusiasts, both professional and non-professional.

Please join us in learning about, enjoying and protecting Colorado's native plants.

## OFFICERS

|                |                 |                               |
|----------------|-----------------|-------------------------------|
| President      | Crystal Strouse | csnativeplants@gmail.com      |
| Vice President | Bernadette Kuhn | bernadettekuhnconps@gmail.com |
| Treasurer      | Mo Ewing        | moewing@q.com                 |
| Secretary      | Nan Daniels     | nahada@msn.com                |
| Admin. Asst.   | Linda Smith     | conpsoffice@aol.com           |

## CHAPTER PRESIDENTS

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| Metro-Denver | Jannette Wesley      | metrodenverconps@gmail.com    |
| Plateau      | Stephen Stern        | stern.r.stephen@gmail.com     |
| Southeast    | Ann Zielinski        | zielinski.agnesann7@gmail.com |

## BOARD OF DIRECTORS

|          |                       |                                  |
|----------|-----------------------|----------------------------------|
| Director | Brian Kurzel ('13)    | brian.kurzel@state.co.us         |
| "        | Jenny Neale ('13)     | nealejr@gmail.com                |
| "        | Robert Powell ('11)   | robertlpowell@durango.net        |
| "        | Jan Turner ('12)      | jltturner@regis.edu              |
| "        | Charlie Turner ('11)  | turner@rabbitbrushpublishing.com |
| "        | Steve Yarbrough ('11) | steveandkenna@msn.com            |

## STANDING COMMITTEES

|                              |                  |                            |
|------------------------------|------------------|----------------------------|
| Conservation                 | Mo Ewing         | moewing@q.com              |
| Education & Outreach         | Megan Bowes      | bowesm@bouldercolorado.gov |
| Field Studies                | Steve Popovich   | stevepopovich@hotmail.com  |
| Horticulture and Restoration | Megan Bowes      | bowesm@bouldercolorado.gov |
| Media                        | Vacant           |                            |
| Membership                   | Linda Smith      | conpsoffice@aol.com        |
| Research Grants              | Catherine Kleier | ckleier@regis.edu          |
| Sales                        | Linda Smith      | conpsoffice@aol.com        |
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| Webmaster                    | Yongli Zhou      | shallopcc@yahoo.com        |
| Website Editor               | Linda Smith      | conpsoffice@aol.com        |

## AQUILEGIA

*Newsletter of the Colorado Native Plant Society*

*Aquilegia is the newsletter of the Colorado Native Plant Society, and is available to members of the Society and to others with an interest in native plants. Four regular issues are published each year, plus a special issue for the annual Society meeting held in September*

*Announcements, news, articles, book reviews, poems, botanical illustrations, and other contributions should be sent to the editor at bh.prairieink@gmail.com.*

*All contributions are subject to editing for brevity and consistency, with final approval of material changes by the author.*

*Articles from Aquilegia may be used by other native plant societies or non-profit groups, if fully cited to author and attributed to Aquilegia.*

### Deadlines

*Submissions to Aquilegia are accepted throughout the year, although the usual deadlines for publication are:*

*February 15 (Spring issue, published March 1)*

*April 15 (Summer issue, published May 15)*

*June 15 (Annual Meeting Issue, published July 15)*

*July 15 (Fall issue, published Aug. 15)*

*October 15 (Winter issue, published November 15)*



Colorado Native Plant Society

P.O. Box 200  
Fort Collins, Colorado 80522  
<http://www.conps.org>



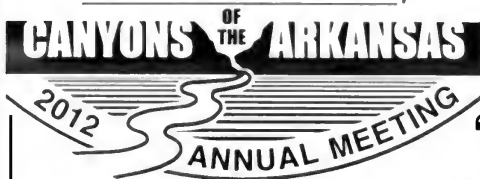
## - CALENDAR -

### NEXT BOARD MEETING

Saturday, May 26 - Tracy Center, Regis University, Denver

**36** FIELD TRIPS INSIDE !

Colorado Native Plant Society



Save these dates on your calendar . . .

For the 2012

## "Canyons of the Arkansas" Annual Meeting!

**IN CANON CITY,  
COLORADO**



the Holy Cross Abbey  
in Canon City, Co.  
([www.theabbeycc.com](http://www.theabbeycc.com))

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